

🔍 Title: **JP9237983A2: CABLE HOLDER**

🔍 Derwent Title: Cable holder for electronic device - has cylindrical interval maintenance part with one end coupled to centre of cable retainer and other end fixed to chassis, to maintain predefined interval between cable and chassis ([Derwent Record](#))

🔍 Country: **JP Japan**

🔍 Kind: **A**

🔍 Inventor: **MATSUHASHI SHINOBU;**

🔍 Assignee: **NEC HOME ELECTRON LTD**
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🔍 IPC Code: **H05K 7/00;**

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🔍 Abstract:

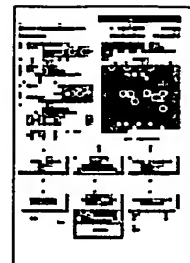
PROBLEM TO BE SOLVED: To obtain a cable holder which is capable of holding a cable and at the same time keeping the interval from other parts constant so as not to bring it into contact with them independently of its length, size, torsion, bending and the like.

SOLUTION: A cable holder 11 is a plastic molded body equipped with a spiral holder 11a which spirally twines around a cable 12 to be able to hold it and a rod-shaped space retainer 11b integrally joined to the center of the holder 11a at a right angle to the center. The holder 11a is twined around the cable 12, and the tip 11c of the spiral space retainer 11b is fixed to a part 13 such as a chassis. As the cable 12 is held with the spiral holder 11a, it can be tightly held even if it is slightly thin in outer diameter, and the spiral holder 11a is able to effectively curb the cable 12 holding its certain part specified in length. Therefore, the cable 12 can be held by the cable holder 11 as kept at a constant interval from the part 13 which is desired to be kept separate from the cable 12 by a certain distance independently of its length, size, torsion, bending and the like.

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🔍 Family: **None**

🔍 Other Abstract Info: **DERABS G97-500657 DERG97-500657**



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the cable holder which holds a cable so that a cable may not contact other parts or cables may not contact mutually in the interior, the exterior, etc. of electronic equipment.

[0002]

[Description of the Prior Art] For example, in the interior, the exterior, etc. of electronic equipment, a cable contacts other parts, or when it is not desirable that cables contact mutually, the cable is conventionally held using the cable holder 1 like drawing 3, or the cable holder like drawing 4. The cable holders 1 of drawing 3 are the parts made from plastics of the structure which has attaching part 1a of the configuration which the nose of cam of the piece of a branch is twisted, and is closed annularly, and cylindrical interval maintenance section 1b in one. When a cable 3 is held in the aforementioned attaching part 1a and contacting a cable 3 fixes the nose of cam of the aforementioned interval maintenance section 1b to the parts (it is hereafter called non-contact parts) 4 which are not desirable, distance with the non-contact parts 4 is kept constant, holding a cable 3.

[0003] Moreover, the cable holder 2 of drawing 4 is the structure which prepared the same attaching part 2a as the above in the ends of cylindrical interval maintenance section 2b, and it keeps the interval of both the cables 3 constant by holding two cables 3 which are parallel in both attaching part 2a, respectively, holding both the cables 3.

[0004]

[Problem(s) to be Solved by the Invention] Since the cable holder 1 of above-mentioned drawing 3 restrains a cable 3 effectively when the bore diameter of attaching part 2a which the length (the length of the range which should be restrained) of a cable 3 closes annularly short moreover is appropriately equivalent to the outer diameter of a cable 3 and grasps a cable 3 closely, it can also maintain an interval with the non-contact parts 4 by the one cable holder 1. However, since a cable 3 cannot be effectively restrained if the same cable holder 3 is used when the length of a cable 3 becomes long or an outer diameter becomes thin, a possibility that a cable 3 may contact the non-contact parts 4 arises only in the one cable holder 3. Moreover, even if the bore diameter of attaching part 1a is appropriately equivalent to the outer diameter of a cable 3, when torsion and bending are in a cable 3, in the one cable holder 3, a cable 3 cannot be restrained effectively too but a possibility that a cable 3 may contact the non-contact parts 4 arises. For this reason, usually, in order to maintain the interval of a cable 3 and the non-contact parts 4, two or more cable holder 1 was used conventionally.

[0005] Moreover, the same was said of the case of the cable holder 2 of drawing 4, and by the length of a cable 3, the size, torsion, bending, etc., in order to be unable to restrain a cable 3 effectively in one cable holder 2 but to usually maintain the interval of cable 3 conventionally for this reason, two or more cable holder 2 was used.

[0006] While it was made in order that this invention might cancel the above-mentioned conventional fault, and holding a cable, it aims at offering the cable holder which can maintain certainly an interval with the parts which adjoin a cable and this, or the interval of cables by one or a small number of cable holder regardless of the length and the size of a cable, torsion, bending, etc.

[0007]

[Means for Solving the Problem] The cable holder of the 1st invention which solves the above-mentioned technical problem is characterized by having the spiral attaching part which can coil around a cable spirally and can hold a cable, and the interval maintenance section which a nose of cam is fixed to the parts which are prepared in this attaching part and one and adjoin a cable passage position, and maintains the interval of the aforementioned attaching part and the aforementioned parts.

[0008] Moreover, the cable holder of the 2nd invention is characterized by having the spiral attaching part of the couple which can coil around two cables spirally, respectively and can hold each cable and which counters, and the interval maintenance section which is prepared between the attaching parts of the aforementioned couple at

one, and maintains the interval of both attaching parts.

[0009]

[Embodiments of the Invention] Hereafter, it explains with reference to the example which shows the gestalt of implementation of the 1st invention and the 2nd invention to drawing 1 and drawing 2. One example of the cable holder 11 of the 1st invention is shown in drawing 1. This cable holder 11 is for contacting a cable 12 and this cable 12 maintaining uniformly an interval with the parts (henceforth non-contact parts) 13, such as a chassis which is not desirable, holding a cable 12. Spiral attaching part 11a which can coil around a cable 12 spirally and can hold a cable 12, It has cylindrical interval maintenance section 11b really combined in the center of this spiral attaching part 11a right-angled, and the whole configuration is being fixed in general to the aforementioned non-contact parts 13 with which the nose of cam of nothing and the aforementioned interval maintenance section 11b adjoins a cable passage position in T form (a spiral portion is regarded as a straight line and it is T form). The fixed means of this example is the structure which formed splenium 11c which expands and contracts elastically at the nose of cam of interval maintenance section 11b, and formed inner breadth hollow 13a which holds this splenium 11c in the non-contact part 13 side. At the time of installation, it expands inside backward [which splenium 11c contracted and passed through the entrance when splenium 11c at the nose of cam of interval maintenance section 11b was stuffed into inner breadth hollow 13a], and it is fixed in inner breadth hollow 13a so that it may not escape simply. In addition, also in the mere through hole which a means to fix the nose of cam of the aforementioned interval maintenance section 11b to the adjoining non-contact parts 13 made in the thin monotonous section instead of an inner breadth hollow [like the example of illustration] whose other party with which splenium 11c at a nose of cam engages is not only in the example of illustration but in drawing 1, it thinks. Moreover, in the case of the mere through hole, it is good also as composition which forms not a splenium but a screw thread in the point of interval maintenance section 11b, and is bound tight and fixed with a nut. Manufacturing by plastics is appropriate for this cable holder 11. Moreover, injection molding etc. can perform the fabrication.

[0010] When holding a cable 12 by the above-mentioned cable holder 11, after twisting spirally spiral attaching part 11a of the cable holder 11 around a cable 12, interval maintenance section 11b can be attached in inner breadth hollow 13a of the non-contact parts 13, or the reverse procedure can perform. If a cable 12 is held by this cable holder 11, since a cable 12 will be grasped by spiral attaching part 11a, even if the outer diameter of a cable 12 becomes thin a little, it is possible to grasp a cable 12 closely similarly, and a cable 12 can be restrained effectively. Moreover, since spiral attaching part 11a will hold the fixed length range of a cable 12, a cable 12 can be effectively restrained also at this point. Therefore, even if torsion and bending are in a cable 12, attaching part 11a can correct the torsion and bending, can hold a cable 12, and can hold a cable 12 in a desired position. Thus, regardless of the length of a cable 12, a size, torsion, and bending, an interval with the non-contact parts 13 is maintainable a certain grade, holding a cable 12. In addition, in drawing 1, 14 is parts, such as a chassis it is not desirable to contact a cable 12 similarly, and the interval to this part 14 is also maintained uniformly.

[0011] One example of the cable holder 21 of the 2nd invention is shown in drawing 2. This cable holder 21 is for keeping the interval between two cable 12 constant. Spiral attaching part 21a of the couple which can coil around two cables 12 spirally, respectively, and can hold each cable 12 and which counters, It has cylindrical interval maintenance section 21b which is prepared among attaching part 21a of the aforementioned couple at one, and maintains the interval of both attaching part 21a, and the whole configuration is making H form (regarding a spiral portion as a straight line H form : drawing sideways H) in general.

[0012] In this cable holder 21, if spiral two attaching part 21a is twisted around a cable 12, respectively as illustration, the interval of cable 12 comrades will be uniformly maintained by interval maintenance section 21b, holding a cable 12 by each attaching part 21a, respectively.

[0013] In addition, each of spiral attaching part 11a in the cable holder 11 of the 1st invention and spiral attaching part 21a in the cable holder 21 of the 2nd invention is good also considering the interval maintenance sections 11b or 21b as the shape of a screw type symmetrical as a center (configuration which the spiral sense reverses in the center), for example, although the whole has the shape of a screw type of the same direction. Moreover, it is not necessarily limited in the center but the interval maintenance sections 11b and 21b may really be combined in the partial position or the partial edge, although it is appropriate to prepare in the center of the spiral attaching parts 11a and 21a. Moreover, the parts which attach the cable holders 11 and 21 concerned can be aimed at the arbitrary parts which not only a chassis but the cable 12 wants to contact.

[0014]

[Effect of the Invention] According to this invention, an interval with the parts contiguous to a cable or the interval of cables is certainly maintainable by one or a few number of cable holders regardless of the length and the size of a cable, torsion, bending, etc. Thus, the workability at the time of the quality and reliability about the function to hold a cable improving, and holding a cable by the cable holder also improves. Moreover, since the

structure of this cable holder is simple, it can offer this outstanding part cheaply.

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CLAIMS

[Claim(s)]

[Claim 1] The cable holder characterized by having the spiral attaching part which can coil around a cable spirally and can hold a cable, and the interval maintenance section which a nose of cam is fixed to the parts which are prepared in this attaching part and one and adjoin a cable passage position, and maintains the interval of the aforementioned attaching part and the aforementioned parts.

[Claim 2] The cable holder characterized by having the spiral attaching part of the couple which can coil around two cables spirally, respectively and can hold each cable, and which counters, and the interval maintenance section which is prepared between the attaching parts of the aforementioned couple at one, and maintains the interval of both attaching parts.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] one example of the cable holder of the 1st invention is shown, and it can set to the busy condition of a cable holder -- it is a notching perspective diagram in part

[Drawing 2] One example of the cable holder of the 2nd invention is shown, and it is a perspective diagram in the busy condition of a cable holder.

[Drawing 3] The conventional cable holder is shown and it is the perspective diagram of the busy condition of a cable holder.

[Drawing 4] Other conventional cable holders are shown and it is the perspective diagram of the busy condition of a cable holder.

[Description of Notations]

11 21 Cable holder

11a, 21a Attaching part

11b, 21b Interval maintenance section

12 Cable

13 Non-contact Parts (Parts contiguous to Cable Passage Position)

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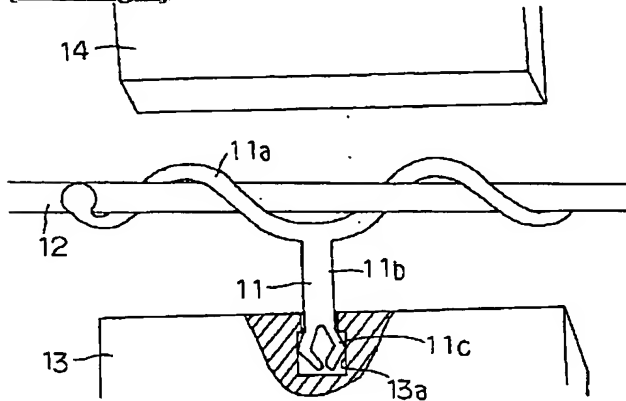
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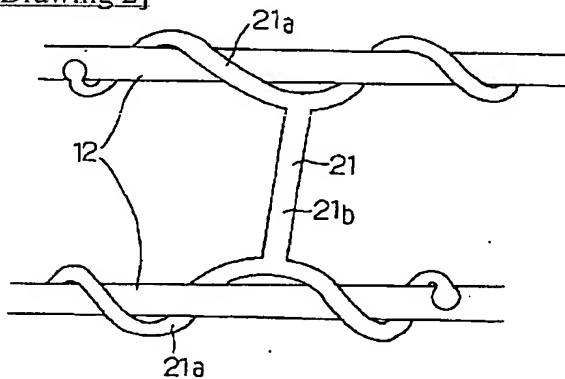
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DRAWINGS

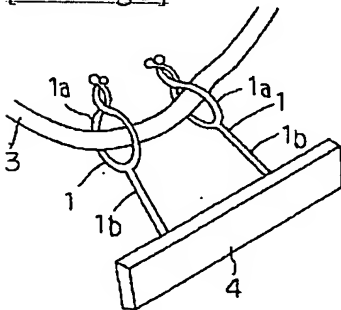
[Drawing 1]



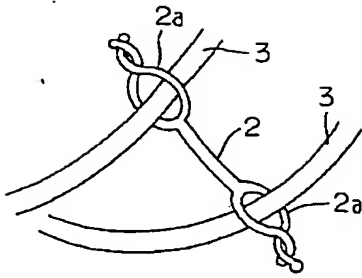
[Drawing 2]



[Drawing 3]



[Drawing 4]



[Translation done.]

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : **NEC HOME ELECTRON LTD**

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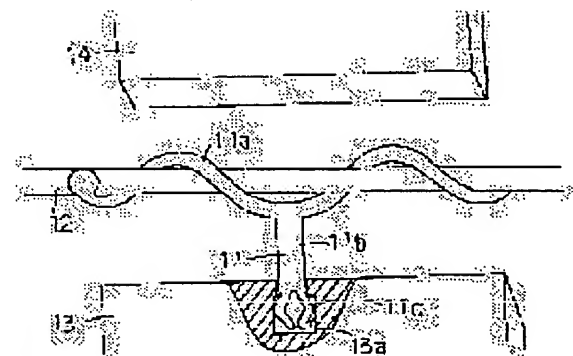
(72)Inventor : **MATSUHASHI SHINOBU**

(54) CABLE HOLDER

(57)Abstract:

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SOLUTION: A cable holder 11 is a plastic molded body equipped with a spiral holder 11a which spirally twines around a cable 12 to be able to hold it and a rod-shaped space retainer 11b integratedly joined to the center of the holder 11a at a right angle to the center. The holder 11a is twined around the cable 12, and the tip 11c of the spiral space retainer 11b is fixed to a part 13 such as a chassis. As the cable 12 is held with the spiral holder 11a, it can be tightly held even if it is slightly thin in outer diameter, and the spiral holder 11a is able to effectively curb the cable 12 holding its certain part specified in length. Therefore, the cable 12 can be held by the cable holder 11 as kept at a constant interval from the part 13 which is desired to be kept separate from the cable 12 by a certain distance independently of its length, size, torsion, bending and the like.



LEGAL STATUS

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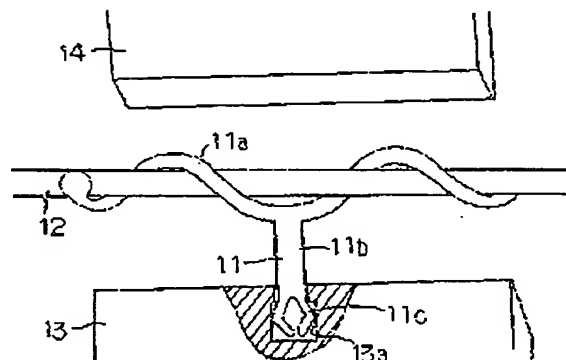
(74) 代理人 弁理士 加川 征彦

(54) 【発明の名称】 ケーブル保持具

(57) 【要約】

【課題】 ケーブルを保持するとともに、ケーブルの長さ、太さ、ねじれ、撓み等に関係なく、接触させたくない他の部品との間隔を一定に維持する。

【解決手段】 ケーブル保持具11は、プラスチック成形品であり、ケーブル12に螺旋状に巻き付いてケーブル12を保持することができる螺旋状の保持部11aと、この螺旋状の保持部11aの中央に直角に一体結合された棒状の間隔維持部11bとを備えている。保持部11aをケーブル12に巻き付け、螺旋間隔維持部11bの先端11cをシャーシ等の部品13に固定する。螺旋状の保持部11aでケーブル12を把持するので、ケーブル12の外径が若干細くなっても緊密にケーブル12を把持でき、かつ、ケーブル12の一定範囲を把持でき、ケーブル12を有効に拘束できる。これにより、ケーブル12の長さ、太さ、ねじれ、撓み等に関係なく、接触させたくない部品13との間隔を一定に維持できる。



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【特許請求の範囲】

【請求項1】 ケーブルに螺旋状に巻き付いてケーブルを保持することができる螺旋状の保持部と、この保持部と一体に設けられケーブル通過位置に隣接する部品に先端が固定されて前記保持部と前記部品との間隔を維持する間隔維持部とを備えたことを特徴とするケーブル保持具。

【請求項2】 2本のケーブルにそれぞれ螺旋状に巻き付いて各ケーブルを保持することができる対向する一対の螺旋状の保持部と、前記一対の保持部間に一体に設けられて両保持部の間隔を維持する間隔維持部とを備えたことを特徴とするケーブル保持具。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、例えば電子機器の内部や外部等において、ケーブルが他の部品に接触したり、ケーブル同士が互いに接触したりしないようにケーブルを保持するケーブル保持具に関する。

【0002】

【従来の技術】例えば電子機器の内部や外部等において、ケーブルが他の部品に接触したりケーブル同士が互いに接触することが好ましくない場合、従来は図3のごときケーブル保持具1、あるいは図4のごときケーブル保持具を用いて、ケーブルを保持している。図3のケーブル保持具1は、二又片の先端が捻じり合わされて環状に閉じる形状の保持部1aと棒状の間隔維持部1bとを一体に持つ構造のプラスチック製部品であり、前記保持部1aにてケーブル3を保持し、ケーブル3を接触させることが好ましくない部品（以下、非接触部品と呼ぶ）4に前記間隔維持部1bの先端を固定することにより、ケーブル3を保持しながら非接触部品4との距離を一定に保つ。

【0003】また、図4のケーブル保持具2は、棒状の間隔維持部2bの両端に前記と同様な保持部2aを設けた構造であり、両保持部2aにて平行する2本のケーブル3をそれぞれ保持することにより、両ケーブル3を保持しながら両ケーブル3の間隔を一定に保つ。

【0004】

【発明が解決しようとする課題】上記図3のケーブル保持具1は、ケーブル3の長さ（拘束すべき範囲の長さ）が短く、しかも環状に閉じる保持部2aの穴径がケーブル3の外径に適切に対応してケーブル3を緊密に把持する場合は、ケーブル3を有効に拘束するので、1本のケーブル保持具1で非接触部品4との間隔を維持することも可能である。しかし、ケーブル3の長さが長くなったり外径が細くなったりした場合、その同じケーブル保持具3を使用すると、ケーブル3を有効に拘束できないので、1本のケーブル保持具3だけでは、ケーブル3が非接触部品4に接触するおそれが生じる。また、保持部1aの穴径がケーブル3の外径に適切に対応して

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も、ケーブル3にねじれや痛みがある場合は、1本のケーブル保持具3では、やはりケーブル3を有効に拘束できず、ケーブル3が非接触部品4に接触するおそれが生じる。このため、従来は通常、ケーブル3と非接触部品4との間隔を維持するために複数本のケーブル保持具1を用いていた。

【0005】また図4のケーブル保持具2の場合も同様であり、ケーブル3の長さ、太さ、ねじれ、痛み等によっては、1つのケーブル保持具2ではケーブル3を有効に拘束できず、このため、従来は通常、ケーブル3どうしの間隔を維持するために複数本のケーブル保持具2を用いていた。

【0006】本発明は上記従来の欠点を解消するためになされたもので、ケーブルを保持するとともに、ケーブルとこれに隣接する部品との間隔あるいはケーブルどうしの間隔を、ケーブルの長さや太さやねじれや痛み等に関係なく、1つ乃至少数のケーブル保持具で確実に維持することのできるケーブル保持具を提供することを目的とする。

【0007】

【課題を解決するための手段】上記課題を解決する第1発明のケーブル保持具は、ケーブルに螺旋状に巻き付いてケーブルを保持することができる螺旋状の保持部と、この保持部と一体に設けられケーブル通過位置に隣接する部品に先端が固定されて前記保持部と前記部品との間隔を維持する間隔維持部とを備えたことを特徴とする。

【0008】また、第2発明のケーブル保持具は、2本のケーブルにそれぞれ螺旋状に巻き付いて各ケーブルを保持することができる対向する一対の螺旋状の保持部と、前記一対の保持部間に一体に設けられて両保持部の間隔を維持する間隔維持部とを備えたことを特徴とする。

【0009】

【発明の実施の形態】以下、第1発明および第2発明の実施の形態を図1、図2に示す実施例を参照して説明する。図1に第1発明のケーブル保持具11の一実施例を示す。このケーブル保持具11は、ケーブル12を保持しながら、ケーブル12とこのケーブル12を接触させることが好ましくないシャーシ等の部品（以下、非接触部品という）13との間隔を一定に維持するためのもので、ケーブル12に螺旋状に巻き付いてケーブル12を保持することができる螺旋状の保持部11aと、この螺旋状の保持部11aの中央に直角に一体結合された棒状の間隔維持部11bとを備えて全体形状が概ねT形（螺旋部分を直線と見てT形）をなし、前記間隔維持部11bの先端がケーブル通過位置に隣接する前記非接触部品13に固定されている。この実施例の固定手段は、間隔維持部11bの先端に弾性的に拡張する膨大部11cを形成し、非接触部品13側にこの膨大部11cを収容する内凹がり凹所13aを形成した構造である。取り付け

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時には、間隔維持部11bの先端の膨大部11cを内広がり凹所13aに押し込むと、膨大部11cが縮小して入口を通過した後内部で拡大して、簡単に抜けないように内広がり凹所13a内に固定される。なお、前記間隔維持部11bの先端を隣接する非接触部品13に固定する手段は、図示例に限らず、例えば、図1において、先端の膨大部11cが嵌合する相手側が図示例のような内広がり凹所ではなく薄い平板部にあけた単なる貫通穴の場合も考えられる。また、その単なる貫通穴の場合、間隔維持部11bの先端部に膨大部でなくねじを形成し、ナットで締め付け固定する構成としてもよい。このケーブル保持具11は、プラスチックで製造するのが適当である。また、その成形は射出成形等により行うことができる。

【0010】上記のケーブル保持具11で、ケーブル12を保持する場合、ケーブル保持具11の螺旋状の保持部11aをケーブル12に螺旋状に巻き付けた後、間隔維持部11bを非接触部品13の内広がり凹所13aに取り付けるか、またはその逆の手順で行うことができる。このケーブル保持具11によりケーブル12を保持すると、螺旋状の保持部11aでケーブル12を把持するので、ケーブル12の外径が若干細くなっても、同様に緊密にケーブル12を把持することが可能であり、ケーブル12を有効に拘束することができる。また、螺旋状の保持部11aがケーブル12の一定の長さ範囲を保持することになるので、この点でもケーブル12を有効に拘束することができる。したがって、ケーブル12にねじれや捻みがあっても、保持部11aがケーブル12をそのねじれや捻みを矯正して保持し、ケーブル12を所望の位置に保持することができる。このように、ある程度はケーブル12の長さ、太さ、ねじれ、捻みに関係なく、ケーブル12を保持しながら非接触部品13との間隔を維持できる。なお、図1において、14は同じくケーブル12を接触させることが好ましくないシャシ等の部品であり、この部品14に対する間隔も一定に維持されている。

【0011】図2に第2発明のケーブル保持具21の一実施例を示す。このケーブル保持具21は、2本のケーブル12相互の間隔を一定に保つためのもので、2本のケーブル12にそれぞれ螺旋状に巻き付けて各ケーブル12を保持することができる対向する一対の螺旋状の保持部21aと、前記一対の保持部21a間に一体に設けられて両保持部21aの間隔を維持する棒状の間隔維持部21bとを備えて、全体形状が概ねH形（螺旋部分を直線と見てH形：図では横向き）をなしている。

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【0012】このケーブル保持具21においては、図示の通り、螺旋状の2つの保持部21aをそれぞれケーブル12に巻き付けると、各保持部21aでそれぞれケーブル12を保持しながら、間隔維持部21bによってケーブル12同士の間隔が一定に維持される。

【0013】なお、第1発明のケーブル保持具11における螺旋状の保持部11a、および第2発明のケーブル保持具21における螺旋状の保持部21aはいずれも、全体が同じ向きの螺旋形状であるが、例えば、間隔維持部11bまたは21bを中心として対称的な螺旋形状（中央で螺旋の向きが反転する形状）としてもよい。また、間隔維持部11b、21bは、螺旋状の保持部11a、21aの中央に設けるのが適切であるが、必ずしも中央に限定されず、偏った位置ないし端部において一体結合してもよい。また、当該ケーブル保持具11、21を取り付ける部品は、シャシに限らず、ケーブル12を接触させたくない任意の部品を対象とすることができる。

【0014】

【発明の効果】本発明によれば、ケーブルと隣接する部品との間隔あるいはケーブルどうしの間隔を、ケーブルの長さや太さやねじれや捻み等に関係なく、1つ乃至数本のケーブル保持具で確実に維持することができる。このように、ケーブルを保持する機能についての品質・信頼性が向上し、また、ケーブル保持具でケーブルを保持する際の作業性も向上する。また、このケーブル保持具の構造は単純であるから、この優れた部品を安価に提供することができる。

【図面の簡単な説明】

【図1】第1発明のケーブル保持具の一実施例を示すもので、ケーブル保持具の使用状態における一部切り欠き斜視図である。

【図2】第2発明のケーブル保持具の一実施例を示すもので、ケーブル保持具の使用状態における斜視図である。

【図3】従来のケーブル保持具を示すもので、ケーブル保持具の使用状態の斜視図である。

【図4】他の従来のケーブル保持具を示すもので、ケーブル保持具の使用状態の斜視図である。

【符号の説明】

11、21 ケーブル保持具

11a、21a 保持部

11b、21b 間隔維持部

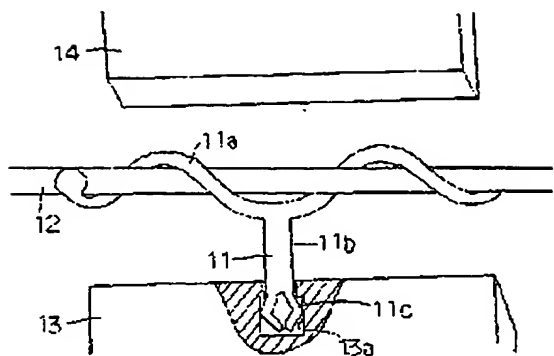
12 ケーブル

13 非接触部品（ケーブル通過位置に隣接する部品）

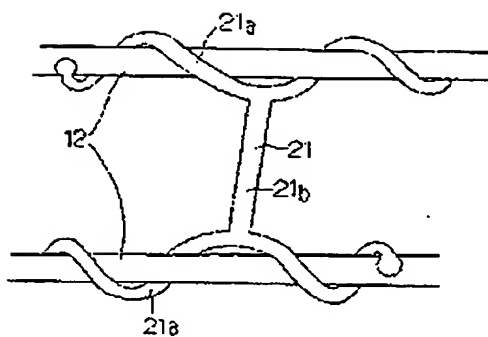
(4)

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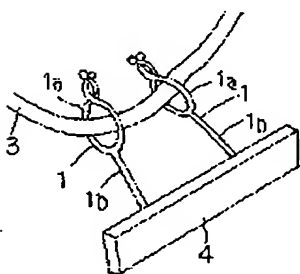
【図1】



【図2】



【図3】



【図4】

